

Drug-use Scenario

Timbuktu State Fish Hatchery (TSFH), located in the state of West Alabama, recently observed elevated chronic mortalities in all of their raceways containing freshwater lizard fish (LZF). LZF populations are found in four other states, but are only considered to be an endangered species by the state of West Alabama. This is the first time, in several years of rearing LZF, that TSFH has ever noted such elevated mortalities. Although not confirmed, the pattern of mortalities is similar to that of systemic columnaris disease previously noted in other species on the facility.

Other background information:

- TSFH's effluent dumps directly into public water, i.e., they do not have a settling pond.
- TSFH produces more than 100,000 pounds of fish annually and their NPDES permit is current, exclusive of all below noted drugs and chemicals, except Aquaflor®.
- One of TSFH's staff members is a certified AFS Fish Pathologist and the hatchery has a fish health laboratory on-site.
- As of yesterday, the mortality rate appears to be increasing rapidly, contrary to its previous chronic nature.

The staff of the TSFH consulted with colleagues from a couple other states, and determined that there were several possible ways to address their LZF problem. Options the staff considered included:

1. Use leftover Aquaflor® medicated feed (a Veterinary Feed Directive drug), which had been recently approved by FDA for ESC in catfish. There are two bags of medicated feed in the cold storage room; one bag is partially filled because feed from the bag was used to treat fish recently, while the other bag is unopened. Both bags were purchased two months ago.
2. Purchase Wondermycin®, a drug approved for poultry, from their local ranch and farm store, and top-coat it onto the standard feed they use for LZF. They have heard marvelous reports on how well this drug worked on other fish species. Because LZF is an endangered species in West Alabama, the staff thought the FWS letter from CVM regarding T&E species should cover this use-pattern.
3. Contact AADAP about becoming an Investigator under FWS's OTC feed INAD. Various brands and formulations of OTC can be purchased at the local ranch and farm store.
4. Ask the manager's cousin, who is a licensed veterinarian in Hawai'i, to write a prescription for Treflan®, an EPA-registered pre-emergent pesticide. There are several articles in the scientific literature which suggest that Treflan® is effective against systemic columnaris and similar fish pathogens.
5. Get their own INAD for Fantastimycin®, a drug approved in Canada to control mortality in Atlantic salmon caused by a variety of gram negative bacterial pathogens.
6. Hang bags of minced onions, an LRP drug, in the influent area of each raceway.
7. Use Romet-TC®.

The assignments for each “work-group” are to:

- A. Label each of the seven possible solutions as viable or non-viable.

- B. Describe, for each solution, what is “right” and what is “wrong” about it for the given situation at TSFH. Also, for each solution(s) deemed to be viable, describe how you would properly go about implementing that solution. Even though that particular solution may be viable, much of the details regarding implementation have been left out of the above descriptions.

- C. Elect a spokesperson.

Following the work-groups’ break-out session, each work-group will be assigned one of the possible solutions, and the spokesperson for that group will be provided 3 minutes (maximum, no exceptions) to present their group’s findings to the class on their assigned solution.

During the break-out session, all groups should also be prepared to:

- A. Describe what TSFH might have done better under this situation, i.e., what they could have done to make their choice easier to initiate and complete.
- B. Describe how TSFH might be better prepared in the future for other outbreaks of this disease or any other new or reoccurring disease or condition.

As time permits, the last part of this session will be open to a class discussion of TSFH’s situation.